

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number  
**WO 2005/005392 A1**

(51) International Patent Classification<sup>7</sup>: **C07D 217/04**,  
209/44, 403/06, 223/16, A61K 31/472, 31/4035, 31/55,  
A61P 25/04

(21) International Application Number:  
PCT/GB2004/002945

(22) International Filing Date: 7 July 2004 (07.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0315872.2 7 July 2003 (07.07.2003) GB  
60/488,442 21 July 2003 (21.07.2003) US

(71) Applicant (for all designated States except US): **IONIX PHARMACEUTICALS LIMITED** [GB/GB]; Unit 418 Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HAMLYN, Richard, John** [GB/GB]; Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB). **HUCKSTEP, Michael, Richard** [GB/GB]; Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB). **LYNCH, Rosemary** [GB/GB]; Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB). **STOKES, Stephen** [GB/GB]; Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB). **TICKLE, David, Christopher** [GB/GB];

Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB). **PATIENT, Lee** [GB/GB]; Ionix Pharmaceuticals Limited, Unit 418, Cambridge Science Park, Milton Road, Cambridge CB4 0PA (GB).

(74) Agent: **SRINIVASAN, Ravi, Chandran**; J.A. Kemp & Co., 14 South Square, Gray's Inn, London WC1R 5JJ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

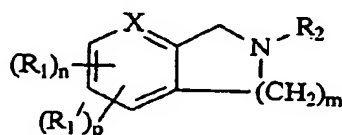
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AZACYCLIC COMPOUNDS AS INHIBITORS OF SENSORY NEURONE SPECIFIC CHANNELS



(I)

(57) Abstract: Compounds of the formula (I), and pharmaceutically acceptable salts thereof, are found to be antagonists of SNS sodium channels. They are therefore useful as analgesic and neuroprotective agents wherein: X is -N- or -CH-; n is from 0 to 3.



WO 2005/005392 A1